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EXAMINER

YABUT, DANIEL D

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,357	Applicant(s) OBERLE ET AL.	
	Examiner DANIEL YABUT	Art Unit 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 2, 7 and 9** are rejected under 35 U.S.C. 102(b) as being anticipated by Gauger et al., US Patent 5,613,402.

Gauger et al. discloses gearbox drive unit (Fig. 4) comprising a(n):

Re claim 1

- Rotary body (148) which is rotatably mounted in a housing (142) and bears axially via at least one end face (at 173) thereof against an adjusting element (160), wherein said adjusting element is configured to be axially displaceable into the housing (C4 / L35-37) for installation and wherein the adjusting element is further configured to be locked axially in position by rotating the adjusting element relative to the housing (C4 / L62-63; C5 / L6-8)
- Adjusting element including a radial bearing surface (176) wherein the rotary body is radially supported in said radial bearing surface (C5 / L8-11; C5 / L19-23).

Re claim 2

- Adjusting element includes a cylindrical recess (176) with a cylindrical wall (at 146; near 178) that is the radial bearing surface.

Re claim 7

- Adjusting element includes a guide region (near 178) with an outer radius that is constant around the circumference (see constant radius near 178 in Fig. 5B) for radially centering the adjusting element in a corresponding centering section of the housing (C4 / 62-63).

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Re claim 9

- Support element includes on the side diametrically opposed to the stop face a form-fit driving element (182) in the form of an inner polyhedron or several recesses, for transferring torque when support element is installed (C5 / L19-23).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 3-6 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gauger et al., US Patent 5,613,402, in view of Carlson, US Patent 3,180,126.

Gauger et al. discloses all of the claim limitations, see above, further including the adjusting element having a retaining region (at 174). However, as to **claim 3**, Gauger et al. does **not** expressly disclose the retaining region with an outer radius that is variable around its circumference.

Carlson teaches the use of a retaining region (at 26) with an outer radius that is variable around its circumference (C3 / L22-29) for the purpose of reducing driving torque (C1 / L24-26).

Regarding **claim 3**, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide the retaining region with an outer radius that is variable around its circumference, as taught by Carlson, in the device of Gauger et al. for the purpose of reducing driving torque.

Gauger et al. as modified above further discloses the following:

Re claim 4

- Retaining region has an outer profile that locks the adjusting element in place axially when rotated in a corresponding inner shape (170) of the housing (C4 / L62-63; C5 / L6-8).

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Re claim 5

- Outer profile forms a form-fit connection (C4 / L62-63) with the housing when it is rotated in the inner shape of the housing, wherein radial projections (at 160; Fig. 5A) of the outer profile dig into the inner shape of the housing (C4 / L62-63; see Fig. 5A)

Re claim 6

- Circumference of the retaining region is designed as an n-cornered polygonal outline with a continually changing outer radius (C3 / L24-26; Fig. 2; Carlson)
- Retaining region is axially insertable in a correspondingly inner shape of the housing when the adjustment element is installed (C4 / L62-63; Fig. 5a)

- *Re claim 11*

- Rotary body (148) which is rotatably mounted in a housing (142) and bears axially via at least one end face (at 173) thereof against an adjusting element (160), wherein said adjusting element is fixed to the housing (C5/ L5-7), wherein the adjusting element (50) is configured to be axially displaceable into the housing for installation (C5 / L19-23)
- Adjusting element is further configured to be locked axially in position by rotating the adjusting element it relative to the housing (C4 / L62-63; C5 / L6-8, L19-23).
- Adjusting element (50) including a radial bearing surface (near 174), wherein the rotary body is radially supported in said radial bearing surface (C4 / L62-63)
- Adjusting element includes a retaining region (at 26; Carlson) with an outer radius that is variable around its circumference (Fig. 2; Carlson)
- Adjusting element includes a guide region (at 22; Carlson) with an outer radius that is constant around the circumference (C3 / L30-31) for radially centering the adjusting element in a corresponding centering section (35) of the housing (C1 / L42-48).

5. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gauger et al., US Patent 5,613,402 in view of Schroeder, US Patent 1,739,616.

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Gauger et al discloses all the claim limitations, see above, including the rotary body being designed as a worm gear (C4 / L50) located on a gearbox spindle (C4 / L11-13). However, Gauger et al. does **not** expressly disclose the housing being designed as a tubular metal cage.

Schroeder teaches the use of a housing being designed as a tubular metal cage (Fig. 3; pg 1 / L8-10) for the purpose of providing a simple and efficient mechanism for housing and supporting a worm gear (pg. 1 / 5-7, 11-13).

It would have been obvious to one having ordinary skill at the time of the invention to provide the housing being designed as a tubular metal cage, as taught by Schroeder, in the device of Gauger et al. for the purpose of providing a simple and efficient mechanism for housing and supporting a worm gear.

6. **Claim 10**, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Gauger et al., US Patent 5,613,402.

Gauger et al. discloses all the claim limitations, see above, including the following:

- A method for manufacturing a gearbox drive unit comprising the following manufacturing steps:
 - Inserting a rotary body (148) with a first axial stop (near 169) in a gearbox housing (142) with a corresponding counterstop (near 166; C4 / L50-53)
 - Axially displacing an adjusting element (160) into the gearbox housing until the adjusting element bears with an axial stop face (at 173) against an end face (at 173) of the rotary body with a specifiable contact pressure the rotary body bearing radially against a radial bearing surface (176) of the adjusting element (C4 / L62-67; C5 / L1-11, L19-23; C5 / L19-23).
 - Axially locking the adjusting element in place by rotating it (C5 / L19-23)

However, Gauger does not expressly disclose rotating the adjusting element by a fraction of a revolution of the adjusting element inside an inner shape (170) of the gearbox housing.

It would have been obvious to one having ordinary skill in the art at the time of the invention to rotate the adjusting element by a fraction of a revolution of the adjusting element inside an inner shape of the gearbox housing, since it has been held that where the general conditions of a claim are disclosed in

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the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. See MPEP 2144.05.

7. **Claims 12-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over over Gauger et al., US Patent 5,613,402 and in view of Ferguson, US Patent 4,106,877.

As to **claim 12**, Gauger et al. as modified above discloses all the claim limitations, see above, but does **not** expressly disclose first inserting a guide region with a smooth surface for centering purposes during installation in an axial direction, in a corresponding centering section, then subsequently sliding an axially adjacent retaining region with a variable radius into a locking section for interaction.

Ferguson teaches first inserting a guide region (at 4a) with a smooth surface (at 4a) for centering purposes during installation in an axial direction in a corresponding centering section (C4 / L21-23), then subsequently sliding an axially adjacent retaining region (at 6) with a variable radius (at 12, 14, 16) into a locking section (near 42) for interaction (see abstract / L4-6) for the purpose of reducing residual hoop stress that can lead to undesired cracking of the material around the hole (C1/ L24-27, L49-51).

Regarding **claim 12**, it would have been obvious to one having ordinary skill in the art at the time of the invention to first insert a guide region with a smooth surface for centering purposes during installation in an axial direction, in a corresponding centering section, then subsequently sliding an axially adjacent retaining region with a variable radius into a locking section for interaction, as taught by Ferguson, in the device of Gauger et al. for the purpose of reducing residual hoop stress that can lead to undesired cracking of the material around the hole.

Gauger et al. as modified above further discloses the following:

Re claim 13

- Retaining region having an outer profile in the form of knurling or thread grooves with no pitch (at 12, 14, 16; Fig. 1 and 2; Ferguson)

Re claim 14

- Retaining region includes circumferential, self-cutting edges (at 12, 14, 16; Ferguson) as an outer profile, wherein said cutting edges cut into an inner shape (at 42; Ferguson) of the locking section of the house during rotation (C3 / L44-49; Ferguson).

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Re claim 15

- Retaining region is formed as a triangle with rounded off corners (Fig. 2; Ferguson)

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

In response to Applicant's argument that the adjusting element of Gauger is not formed to be axially displaceable, but instead axially adjustable only by means of rotation, the broadest reasonable interpretation of the phrase "axially displaceable" encompasses any means for displacement in an axial direction. The adjustment element of Gauger indeed is axially displaced for adjustability purposes and thus the claim language does not structurally distinguish itself from the prior art.

In response to Applicant's argument that the adjusting element and bore does not represent axially locking, the adjusting element is indeed prevented from displacing itself in the axial direction via threading (C4 / L63-64). Therefore, the claim language does not structurally distinguish itself from the prior art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL YABUT whose telephone number is (571)270-5526. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:00 P.M. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard W. Ridley can be reached on (571)272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DANIEL YABUT/
Examiner, Art Unit 3656
7/31/2009

/Richard WL Ridley/
Supervisory Patent Examiner, Art Unit 3656